REMARKS

Favorable reconsideration of this application is respectfully requested.

Claim 2 is pending in this application. Claim 2 was rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 3,160,009 to Carney in view of U.S. patent 3,303,537 to Mislan and further in view of U.S. patent 6,491,426 to Schonath et al. (herein "Schonath"). That rejection is traversed by the present response as discussed next.

Applicants respectfully submit the outstanding rejection is an improper combination of unrelated prior art, and further that even combining the references in the manner suggested in the Office Action would not fully meet all of the positively recited claim features.

Independent claim 2 recites:

> wherein the structure is provided with a ***pneumatic connection for introduction of air*** into the structure and with a shutter, the pneumatic connection introducing air into the structure ***from a side thereof opposing the shutter***; and
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> ***opening the shutter for detecting the thermologic parameters while the radiation sensor and the pointer device are surrounded by the introduced air***, which introduced air passes the pointer device and the radiation sensor from the pneumatic connection toward the opened shutter. [Emphasis added].

With reference to Figures 1 and 2 in the present specification as a non-limiting example, claim 2 is directed to a method to detect the distribution of service temperatures in a die-casting or molding process. The claimed method applies to a system including a radiation sensor 4, a pointing device 5, and a protective structure 2. That protective structure 2 includes a shutter 3 and a pneumatic connection 7. The pneumatic connection 7 can introduce or blow air into the protective structure 2. The housing of the system, i.e., the protective structure 2, encompasses the radiation sensor 4 and the pointing device 5.

Figure 1 shows a structure in which the shutter 3 is in a closed position, and Figure 2 shows a structure in which the shutter 3 is in an opened position. In the structure shown in

Figure 2, showing the opened position of the shutter 3, the radiation sensor 4 is positioned within the protective structure 2 such that thermologic parameters originating from a surface 8 of the oppositely arranged wall can be detected by the radiation sensor 4.

Further, in that position of Figure 2 in which the shutter 3 is opened, the radiation sensor 4 and the pointer device 5 are surrounded by air introduced from the pneumatic connection 7, which introduced air passes the pointer device 5 and radiation sensor 4 from the pneumatic connection 7 towards the opened shutter 3.

Applicants first respectfully submit the outstanding rejection has not at all considered the claim invention of a "pneumatic connection introducing air into the structure from a side thereof opposing the shutter". With the use of a pneumatic connection pressurized air can be provided into a protective housing of a temperature measuring device of the present invention, from a side opposing a shutter.

The outstanding grounds for rejection recognizes deficiencies in each of the art individually, but attempts to realize all of the claimed features with a combination of teachings in the applied art.

Specifically the outstanding rejection relies on Carney to disclose a temperature detecting equipment 23 and a shutter to open the detecting equipment to measure a temperature distribution inside a furnace, but recognizes Carney fails to use a radiation sensor.[1] The outstanding rejection further relies on Mislan to disclose a radiation sensor, but recognizes both Carney and Mislan fail to teach introducing air into a structure.[2] The outstanding rejection finally relies on Schonath to disclose that air may be blown with a fan

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[1] Office Action of August 22, 2007, page 2, last paragraph.
[2] Office Action of August 22, 2007, page 3, first three paragraphs.

to increase a Nusselt number and improved cooling, citing Schonath at column 1, lines 29-45.[3]

First, applicants note Carney clearly shows in Figure 2 the use of temperature detecting equipment 23 ***outside of a furnace*** 10. Clearly in Carney no pneumatic connection is provided behind the temperature detecting equipment 23 to introduce air as that temperature detecting equipment 23 is provided outside of a furnace 10. Applicants in that respect note Carney does not even disclose or suggest any "structure" that would include the temperature detector 23 in which air could be introduced. Further, Carney would not even have been modified to meet such claim features.

Carney is generally directed to temperature control of melting furnaces, and is particularly concerned with an improved method of an apparatus for determining the temperature of furnaces.[4] In Carney a glass-melting tank furnace is exemplarily described, the furnace 10 being fired by flames alternately originating at opposite sidewalls 11 and 12 of the furnace. In Carney gaseous flames emanate from burner ports 15 across the furnace and exhaust through opposite port 16.[5] The relative high temperatures within the furnace in Carney prohibit arrangement of a temperature measuring device within the furnace, and therefore Carney proposes to obtain a detection of temperature from a source located outside of the actual firing area, thereby protecting the instruments from relatively continuous exposure to high heat.[6] Thereby, Carney discloses a structure in which a heat reading meter

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[3] Office Action of August 22, 2007, page 3, middle paragraph. Applicants also note the outstanding rejection appears to include a typographical error in referring to Schonath at column 3, lines 29-45 when the proper reference appears to be to column 1, lines 29-45.
[4] Carney at col. 1, lines 10-13.
[5] Carney at col. 1, line 69 to col. 2, line 1.
[6] Carney at col. 2, lines 46-49.

23 of the pyrometer type is utilized, and a shutter or door 27 is provided on the sidewall to allow the heat reading meter 23 to be directed towards a central area of a roof arch.[7]

Thereby, the main teaching of Carney is to provide a temperature sensing device outside of a heating chamber.

Thus, the heat reading meter 23 in Carney does not even suffer from being heated or have any other reason to have air pass thereover. Carney devised the device therein to avoid the heat reading meter 23 from being heated by the furnace by being placed outside of the furnace. Thereby, there clearly would not have been any reason for one of ordinary skill in the art to modify Carney to introduce air from a pneumatic connection to pass the heat reading meter 23. In that respect applicants also reiterate Carney does not even disclose or suggest the heat reading meter 23 being placed inside a structure that could include a pneumatic connection for introduction of air. That is the case because the heat reading meter 23 in Carney is not provided within any structure, but instead is provided outside of a furnace.

Given the above-noted structure in the primary reference to Carney, applicants respectfully Carney could not even have been modified to fully meet all the claimed features.

Moreover, applicants note the applied art is even further deficient and contrary to the teachings in Carney.

Mislan is directed to casting machines or presses of die-casting type. Mislan recognizes that conventional die-casting presses for production of molded metal parts include a pair of plates or platens to which die members defining mold cavities are secured.[8] Mislan recognizes one problem with such types of machines is the injection process of the molded products and failure of the machines to fully eject molded products, before commencement of

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[7] Carney at col. 2, lines 52-55 and in Fig. 2.
[8] Mislan at col. 1, lines 17-20.

a next cycle, which can be serious.[9] Thereby, Mislan discloses a system for sensing failure of complete ejection of molded products at the end of each machine cycle by sensing radiant energy, particularly heat, proceeding from any molded material retained in or by the dies themselves, during a period following an "ejection" process.[10] Thus, in Mislan radiant energy is sensed by a heat or infra-red radiation sensor 26 including a cylindrical casing 34, within which is mounted an infra-red sensing cell 38, and also an optional cooling or refrigerative mount 40 may be provided.[11]

The outstanding rejection cites Mislan to disclose a radiation sensor and indicates it would have been obvious to one of ordinary skill in the art to utilize the radiation sensor in Mislan in Carney "to measure the heat in the casting furnace".[12]

That grounds for rejection is traversed as Carney already clearly discloses an effective heat reading meter 23 provided outside of a furnace to detect the temperature in the casting furnace. The disclosure in Mislan to sensing a failure of an "ejection" process in a die-casting press is completely irrelevant to the device in Carney. Also, the outstanding Office Action has not indicated how utilizing a heat or infra-red radiation sensor as in Mislan could provide any benefits to the device of Carney, since as noted above Carney discloses the use of a heat reading meter 23 outside of a casting furnace. No disclosure in Mislan is even remotely related to the device of Carney, and thus applicants respectfully submit one of ordinary skill in the art would not in any way have utilized the disclosures in Mislan to modify the device of Carney. Applicants also reiterate the outstanding Office Action has not provided any actual motivation or benefits that would be realized by such a modification of Carney in view of the teachings in Mislan.

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[9] Mislan at col. 1, lines 46-48.
[10] Mislan at col. 2, lines 12-21.
[11] Mislan at col. 4, lines 22-23 and Fig. 2.
[12] Office Action of August 22, 2007, page 3, first two paragraphs.

The outstanding Office Action also recognizes that neither Carney nor Mislan introduce air into the structure. As discussed above in detail Carney could not even have been modified to include such a structure.

Nevertheless the outstanding rejection cites Schonath to disclose air may be blown with a fan to increase a Nusselt number and improve cooling, and the outstanding Office Action takes such teachings in Schonath and attempts to apply such to Carney and Mislan.

Applicants first reiterate Carney has already addressed excessive heating of the heat reading meter 23 by providing such outside of the furnace. Carney does not indicate any further cooling would be needed of the heat reading meter 23.

Applicants also note Schonath at most discloses cooling a semiconductor chip such as a microprocessor in a computer, which is completely unrelated to both Carney and Mislan.

In further detail, Schonath is directed to thermal bond verification. In the description of the related art Schonath indicates heat sinks have been used to cool CPUs and that air can be passed over the heat sinks.[13] However, the Schonath reference is substantially directed to evaluating thermal bonds between the heat producing device and the heat absorbing apparatus, which may be a heat sink.[14]

Such disclosure in Schonath are completely unrelated to both Carney and Mislan. Even the disclosure that a CPU can have a heat sink attached thereto and that air can be blown over the heat sink with a fan is irrelevant to Carney utilizing a heat reading meter 23 outside of a furnace to detect the temperature of a furnace. In Carney the heat reading meter is designed to detect the temperature and not to be attached to a heat sink. Needless to say the disclosures in Schonath are also completely irrelevant to the die-casting machine of Mislan.

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[13] Schonath at col. 1, lines 29-33.
[14] Schonath at col. 3, line 20 et seq.

The outstanding Office Action has clearly taken unrelated and isolated teachings in the prior art and combined such without any basis whatsoever in an attempt to recreate applicants' invention. Applicants submit such an improper hindsight reconstruction is clearly improper.

Moreover, such a combination of teachings still does not fully meet ***all*** of the claimed features. Such a combination of teaching still does not disclose or suggest a "pneumatic connection introducing air into the structure from a side thereof opposing the shutter". No cited art discloses or suggests the use of such a pneumatic connection for introducing air. The outstanding Office Action does not even attempted to indicate where such a feature is disclosed in the cited art.

Further, in the claims the air is introduced from a side opposing a shutter. As discussed above in detail, Carney does not even disclose or suggest the heat reading meter 23 being provided in a structure at all, much less one having a shutter on one side and a pneumatic connection on another side. Neither Mislan nor Schonath even address such features. In that respect Schonath is particularly deficient as Schonath at most discloses using a fan to blow air over a heat sink, which is irrelevant to a "pneumatic connection introducing air into the structure from a side thereof opposing the shutter".

Applicants also note Carney, Mislan, and Schonath are not even directed to a similar system as in the claimed invention and cannot achieve operations as in the claimed invention.

According to the claimed invention, a housing encompasses a pointer device and a radiation sensor and has a shutter on one side and a pneumatic connection for introducing air on an opposite side. In the claimed invention the shutter can be actuated to allow the radiation sensor to observe thermologic parameters of an opposite wall. After such a detection the shutter can be closed. In the claimed invention the structure provides protection

for the sensor and the pointer from environmental disturbances, and the air stream introduced from the pneumatic connection inside the structure can prevent contamination.

Further, in the claimed invention the pneumatic connection introduces air, which can thereby be pressurized, and an over-pressure of air is generated which further assists in creating an air flow outward from the pointer device and radiation sensor, so that thereby further contamination will not enter into the detector area.

None of Carney, Mislan, nor Schonath is directed to any even similar features.

In view of the foregoing comments, applicants respectfully submit the combination of teachings of Carney, Mislan, and Schonath in the manner suggested in the Office Action would not have been suggested to one of ordinary skill in the art. Moreover, applicants respectfully submit even such a combination of teachings does not fully meet all the claimed features.

In view of the foregoing comments applicants respectfully submit independent claim 2 as currently written clearly distinguishes over the applied art.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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